



### Apple IIGS

### #88: The Page One Stack in a 16-Bit World

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This Technical Note clarifies the protocol for moving the stack pointer in and out of page one.

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On page 13 of the *Apple IIGS Firmware Reference*, under “Save the value of the native-mode stack pointer,” there is a code sample showing how to switch **to** the page-one stack by setting the stack pointer to \$01xx, where xx is the contents of EMULSTACK at \$01/0100.

However, the manual does not warn you about moving the stack pointer from page one to another area. When you do that, you must store the low byte of the stack pointer at EMULSTACK before moving the stack pointer out of page one. If you do not save the page-one stack properly, interrupt routines or some toolbox calls may destroy a part of the page one stack that you go back to later, expecting that return addresses are still there.

**Note:** If the auxiliary-memory stack and zero page are in use, you must use \$01/0101 instead of \$01/0100. See the *Apple IIe Technical Reference Manual*, pp. 153-154

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#### Further Reference

- *Apple IIGS Firmware Reference*
- *Apple IIe Technical Reference Manual*